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10/712,636	11/13/2003	Mark E. Pecen	CS2193IRL	8979
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MOTOROLA INC			HUYNH, CHUCK	
600 NORTH US HIGHWAY 45				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/712,636	PECEN ET AL.	
Examiner	<b>Art Unit</b>		
Chuck Huynh	2617		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 06 April 2007.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-20 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO/SB/08)  
    Paper No(s)/Mail Date \_\_\_\_\_  
4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_\_  
5)  Notice of Informal Patent Application  
6)  Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Claims 3 and 5 are amended.

### *Response to Arguments*

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claim 17 rejected under 35 U.S.C. 102(e) as being anticipated by Ludwig et al. (US2002/0141353; hereinafter Ludwig).**

Regarding claim 17, Ludwig discloses a method of operating a mobile communication device on the network (Abstract), comprising:

determining if a virtual bearer mode is supported by a network (system implementing RLC buffer: Page 4, [0031]);

receiving from a lower layer a downlink streaming signal at a first data rate at least when the virtual bearer mode is supported and active (transmitting data from RLC buffer: Page 6, [0047]); and

outputting data by the virtual bearer, the virtual bearer storing the received signal and outputting the signal at a second rate slower than the first data rate during at least a portion of the transmission when the virtual bearer mode is supported and active to provide flow control within the mobile communication device, and the virtual bearer outputting the stored signal when the downlink signal is interrupted (Page 6, [0047]-[0049]).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 3 and 9, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell et al. (hereinafter Forssell US 6683860) in view of Hartop et al (US 20020161898; hereinafter Hartop)**

Regarding claim 1, Forssell (US 6683860) discloses a method of operating a mobile communication device that is operable to communicate on an over-the-air communication link, comprising the steps of:

transmitting over-the-air that a virtual bearer mode of operation is supported (Col 9, lines 30-31, 23-26; Col 3, lines 56-67 – Col 4, lines 1-6);

receiving a response associated with the virtual bearer mode of operation for the communication link (Col 9, lines 26-36); and

selectively operating in virtual bearer mode depending upon the response (Col 9, lines 16-47), however, Forssell does not distinctively disclose the limitation of wherein in the virtual nearer mode the virtual bearer being operable to provide flow control within the communication device, the virtual bearer flow control to store data when the communication link is not interrupted and to provide the stored data when the communication link is interrupted.

However, Hartop does disclose the well known usage of a data stream buffer; which reads on the limitation wherein in the virtual nearer mode the virtual bearer being operable to provide flow control within the communication device, the virtual bearer flow control to store data when the communication link is not interrupted and to provide the stored data when the communication link is interrupted (use to prevent interruptions of incoming data for smoothness of presenting the data stream to the application: Page 1, [0004]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a data stream buffer to prevent data stream interruptions.

Regarding claim 3, Forssell (US 6683860) discloses the method according to claim 1, wherein the virtual bearer mode is initiated (the setting up of new Temporary Block Flow Col 8, lines 14-23, 39-40, 50+) in response to a response indication a streaming bearer will be established (Col 7, lines 15-45; Col 8, lines 14-23, 51-53).

Regarding claim 9, Forssell's (US 6665280) discloses a method of operating a communication system including a network element, comprising the steps of:

Determining in the network element that virtual bearer flow control required for a receiving device(Col 2, lines 39-54); and

transmitting the virtual bearer type for receipt by the receiving device(Col 8, lines 53-67 – Col 9, lines 1-53; Table 2 and 3);

Forssell discloses all the particulars of the claim except the added limitation of transmitting a signal accommodating virtual bearer flow control by the receiving device, wherein the signal is selectively over-dimensioned to support virtual bearer flow control in a receiving device virtual bearer operable to store data when the communication link is not interrupted and output the stored data when the communication link is interrupted.

However, Hartop does disclose the well known usage of a data stream buffer; which reads on the limitation of transmitting a signal accommodating virtual bearer flow control by the receiving device, wherein the signal is selectively over-dimensioned to support virtual bearer flow control in a receiving device virtual bearer operable to store data when the communication link is not interrupted and output the stored data when

the communication link is interrupted (use to prevent interruptions of incoming data for smoothness of presenting the data stream to the application: Page 1, [0004]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a data stream buffer to prevent data stream interruptions.

Regarding claim 10, Forssell's (US 6665280) in view of Hartop discloses the method of claim 9, wherein the step of transmitting includes transmitting an indication of a streaming bearer type for streaming data (Page 1, [0004]).

**5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Landais et al. (hereinafter Landais) in view of Ludwig et al. (2002/0141353)**

Regarding claim 16, Landais discloses A method of operating a mobile communication device, comprising:

storing at least one frame of a communication signal received at a first data rate from a network (data transfer in progress) (Page 2, [0029-0030]);  
and applying flow control to the lower layers in a virtual bearer (Page 4, [0066-0067])  
responsive to a determination that a cell change is imminent (Page 2, [0029-0030]);

Landais discloses all the particulars of the claim but is unclear about whereby the virtual bearer being operable to store received signal information and output the frame at a second data rate slower than the first data rate when it is determined that a cell change is imminent and the virtual bearer operable to provide the stored data when receipt of the communication signal is interrupted;

However, Ludwig does disclose virtual bearer (RLC buffer) being operable to store received signal information and output the frame at a second data rate slower than the first data rate when it is determined that a cell change is imminent and the virtual bearer operable to provide the stored data when receipt of the communication signal is interrupted (slower transmission rate from buffer: Page 6, [0047]; attributed to handover: Page 2, [0013], Page 6, [0049]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Ludwig's disclosure to avoid packet loss (Page 6, [0050]).

**1. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell (US 6683860) in view of Hartop in further view of Forssell (US 6665280).**

Regarding claim 2 Forssell (US 6683860) discloses the method according to claim 1, wherein the mobile device includes a first controller maintaining the integrity of the radio link (RLC) (Col 3, lines 12-13; Fig. 2, no.202) and a second controller (Col 3, line 14; Fig. 2, no.204), and communicating between the first controller and the second controller without (direct communication virtual bearer virtual bearer flow control in a transparent mode (Fig.2 connection between no. 202 and 204) when the virtual bearer is not selected.

Forssell (US 6683860) in view of Hartop discloses all the particulars of the claim except wherein said step of selectively operating includes communicating between the first controller and the second controller via a virtual bearer in the virtual mode.

However, Forssell (US 6665280) does disclose the limitation wherein said step of selectively operating includes communicating between the first controller (RLC) and the second controller (LLC) via the virtual bearer in the virtual bearer mode (Col 6, lines 58-67; Fig. 3).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Forssell's (US 6665280) disclosure to further facilitate data between the RLC and the LLC.

**Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell (US 6683860) in view of Forssell (US 6665280), in further view of Hartop.**

Regarding claim 4, Forssell (US 6665280) discloses a mobile communication device, comprising:

a radio link controller (Col 8, lines 40-52);

wherein the virtual bearer is selectively operative to apply flow control to the in order to maintain a predetermined queue state target (data packets being prioritized) (Col 8, lines 25-35); and

a logical link controller coupled to the virtual bearer for receiving logical link controller frames from the logical link controller (Fig. 3, no. 265; Col 6, lines 24-55).

Forssell (US 6665280) discloses all the particulars of the claim except

a virtual bearer coupled to the radio link controller including a buffer storing at least one logical link controller frame of a communication signal.

However, the functionality of claimed virtual bearer is performed by the TBFs in Forssell's (US 6665280) disclosure (Col 8, lines 40-52). Since the TBFs can communicate data individually, no buffer is need; however, a memory buffer such as disclosed in Col. 4, lines 33-38 can be combined.

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a memory buffer to temporary store data packets (Col 2, line 17; Col4, lines 33-38)

Forssell in view of Forssell discloses all the particulars of the claim except for the added limitation that the virtual bearer operable to store data when a communication link is not interrupted and to provide the stored data when the communication link is interrupted.

However, Hartop does disclose the well known usage of a data stream buffer; which reads on the limitation wherein in the virtual nearer mode the virtual bearer being operable to provide flow control within the communication device, the virtual bearer flow control to store data when the communication link is not interrupted and to provide the stored data when the communication link is interrupted (use to prevent interruptions of incoming data for smoothness of presenting the data stream to the application: Page 1, [0004]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a data stream buffer to prevent data stream interruptions.

**2. Claim 5-8, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell (US 6665280) in view of Landais et al. (hereinafter Landais) in further view of Hartop.**

Regarding claim 5, Forssell (US 6665280) discloses a mobile communication device, comprising;

a radio link controller coupled to lower layers (Col 8, lines 40-52);  
a logical link controller coupled to the virtual bearer, the logical link controller to receive logical link controller frames from the virtual bearer (Fig. 3, no. 265; Col 6, lines 24-55).

Forssell (US 6665280) discloses all the particulars of the claim except a virtual bearer coupled to the radio link controller and including a buffer storing at least one logical link controller frame of a communication signal; and wherein the virtual bearer is operative to apply flow control to the lower layers and is responsive to a determination that a cell change is imminent.

However, the functionality of claimed virtual bearer is performed by the TBFs in Forssell's (US 6665280) disclosure (Col 8, lines 40-52). Since the TBFs can communicate data individually, no buffer is need; however, a memory buffer such as disclosed in Col. 4, lines 33-38 can be combined.

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a memory buffer to temporary store data packets (Col 2, line 17; Col4, lines 33-38).

Furthermore, Landais does disclose wherein the virtual bearer is operative to selectively apply flow control and is responsive to a determination that a cell change is imminent (Page 1, [0025]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Landais' disclosure to provide a cell changing mean for communication.

Forssell in view of Forssell discloses all the particulars of the claim except for the added limitation that the virtual bearer operable to store data when a communication link is not interrupted and to provide the stored data when the communication link is interrupted.

However, Hartop does disclose the well known usage of a data stream buffer; which reads on the limitation wherein in the virtual nearer mode the virtual bearer being operable to provide flow control within the communication device, the virtual bearer flow control to store data when the communication link is not interrupted and to provide the stored data when the communication link is interrupted (use to prevent interruptions of incoming data for smoothness of presenting the data stream to the application: Page 1, [0004]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a data stream buffer to prevent data stream interruptions.

Regarding claim 6, Landais discloses the mobile communication device as defined in claim 5, wherein the determination that a cell change is imminent is received from a network (Page 1, [0025]).

Regarding claim 7, Landais discloses the mobile communication device as defined in claim 5, wherein the determination that a cell change is imminent is made by the mobile communication device (Page 1, [0025]).

Regarding claim 8, Landais discloses the mobile communication device as defined in claim 7, wherein the determination that a cell change is imminent is made by a controller using a predictive algorithm (page 1, [0025]).

Regarding claim 14, Forssell's (US 6665280) discloses a method of operating a communication system including a network element, comprising the steps of: determining that a virtual bearer is required on the downlink transmission to a mobile communication (Col 2, lines 39-54).

Forssell's (US 6665280) discloses all the particulars of the claim like over-dimensioning the downlink signal to the mobile communication device to accommodate flow control in the communication device (increasing downlinks by creating more TBFs for DL transfer Col 2, lines 29-49; Col 8, lines 46-48) but does not disclose the cell change by the mobile communication device during a virtual bearer mode of operation.

However, Landais does disclose a cell changing selection process of a mobile during data transfer (Page 1, [0019-0025]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to combine Landais's disclosure of a cell changing process to provide better connection.

Forsell in view of Landais discloses all the particulars of the claim, but does not distinctively disclose the added limitation wherein the signal is selectively over-dimensioned depending upon the virtual bearer type to support virtual bearer flow control wherein the virtual bearer is operable to store data when the communication link is not interrupted and output the stored data when the communication link is interrupted.

However, Hartop does disclose the well known usage of a data stream buffer; which reads on the limitation wherein in the virtual nearer mode the virtual bearer being operable to provide flow control within the communication device, the virtual bearer flow control to store data when the communication link is not interrupted and to provide the stored data when the communication link is interrupted (use to prevent interruptions of incoming data for smoothness of presenting the data stream to the application: Page 1, [0004]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate a data stream buffer to prevent data stream interruptions.

Regarding claim 15, Landais discloses the method of claim 14, further including the step of not over- dimensioning the downlink signal to accommodate a cell change by

the mobile communication device during a background bearer type of virtual bearer mode operation (Page 2, [0029-0030]). It is disclose that the downlink is interrupted and therefore not being over-dimensioning.

**3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell's (US 6665280) in view Hartop further in view of Golden et al. (hereinafter Golden).**

Regarding claim 11, Forssell's (US 6665280) discloses all the particulars of the claim but is not clear on the method of claim 9, wherein the step of transmitting the virtual bearer type includes transmitting an indication of background bearer type for background data transmission (interpreted as large data blocks).

However, Golden does clear disclose background class downloads like emails (Col 8, lines 59-60).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Golden's disclosure to provide large data transfer request by users.

**4. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell's (US 6665280) in view of Hartop in further view of Forssell's (US 6683860).**

Regarding claim 12, Forssell's (US 6665280) in view of Hartop discloses all the particulars of the claim but is unclear on the method of claim 9, wherein the step of transmitting the virtual bearer type includes transmitting an indication of no virtual bearer flow control for data.

However, Forssell (US 6683860) does disclose the fact that the system is able to communicate that there is not virtual bearer (TBF) for data transfer then a new TBF is created for data transfer (Col 5, lines 41-43).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Forssell's (US 6683860) disclosure to provide communicate the need to establish a connection for communication.

**5. Claim 13, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell's (US 6665280) in view of Hartop in further view of Landais.**

Regarding claim 13, Forssell's (US 6665280) discloses the method of claim 10, wherein the step of transmitting the signal includes over-dimensioning the transmitted signal to accommodate virtual bearer flow control within the receiving device (increasing downlinks by creating my TBFs for DL transfer Col 2, lines 29-49; Col 8, lines 46-48).

Regarding claim 18, Forssell discloses the method of claim 13, wherein said over-dimensioning the transmitted signal is responsive to a determination that cell change is imminent for the communication device during a virtual bearer mode of

operation (increasing downlinks by creating my TBFs for DL transfer Col 2, lines 29-49; Col 8, lines 46-48).

However Forssell in view of Hartop discloses all the particulars of the claim except it is responsive to a determination that a cell change is imminent (Page 1, [0025]).

However, Landais a determination that a cell change is imminent (Page 1, [0025]).

It would have been obvious to one ordinarily skilled in the art at the time of invention to incorporate Landais' disclosure to provide a cell changing mean to improve communication.

Regarding claim 19, Landais discloses the mobile communication device as defined in claim 5, wherein the determination that a cell change is imminent is received from a network (Page 1, [0025]).

Regarding claim 20, Landais discloses the mobile communication device as defined in claim 5, wherein the determination that a cell change is imminent is made by the mobile communication device (Page 1, [0025]).

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuck Huynh whose telephone number is 571-272-7866. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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